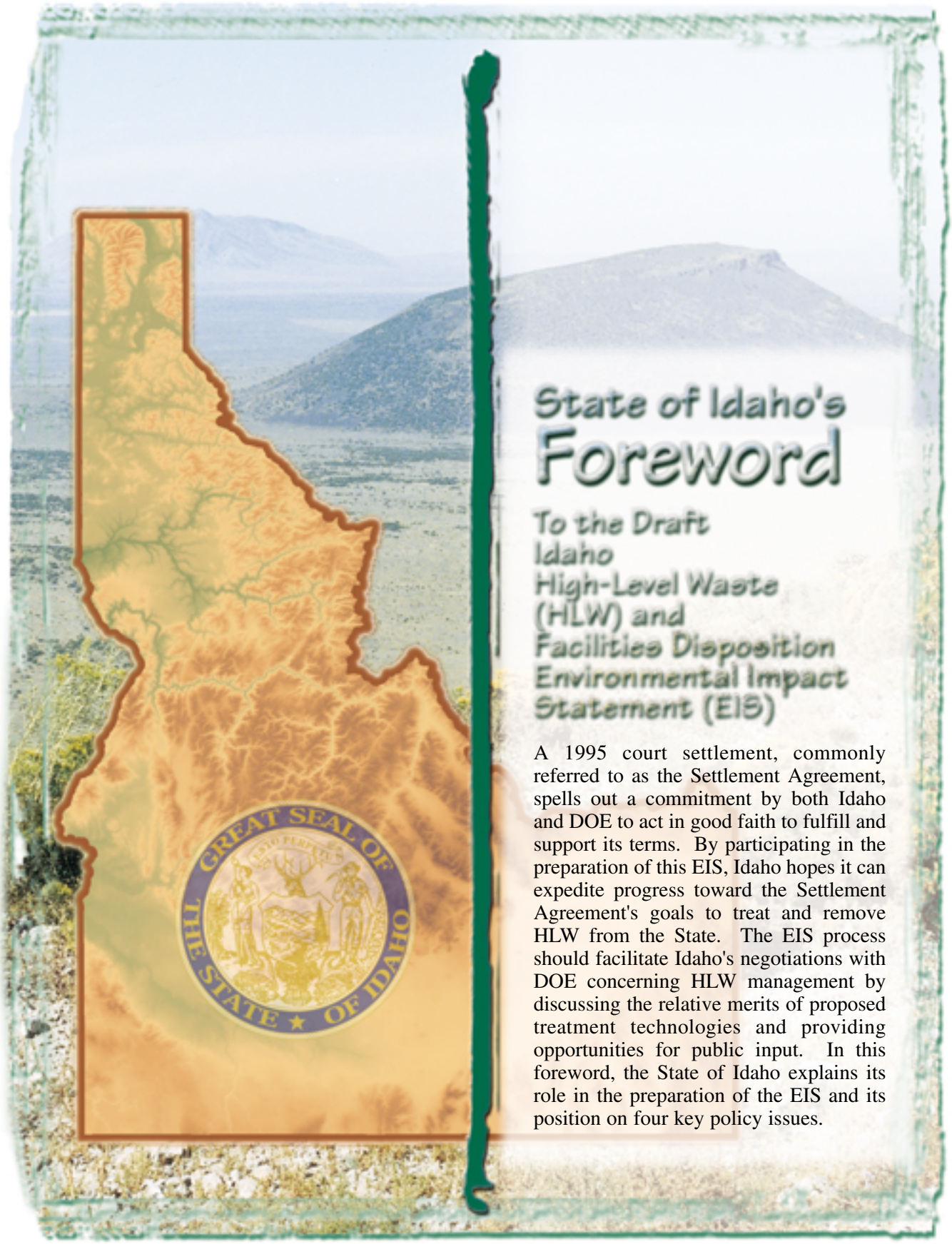

State of Idaho's Foreword

To the Draft Idaho High-Level Waste (HLW) and Facilities Disposition Environmental Impact Statement (EIS)

A 1995 court settlement, commonly referred to as the Settlement Agreement, spells out a commitment by both Idaho and DOE to act in good faith to fulfill and support its terms. By participating in the preparation of this EIS, Idaho hopes it can expedite progress toward the Settlement Agreement's goals to treat and remove HLW from the State. The EIS process should facilitate Idaho's negotiations with DOE concerning HLW management by discussing the relative merits of proposed treatment technologies and providing opportunities for public input. In this foreword, the State of Idaho explains its role in the preparation of the EIS and its position on four key policy issues.

Idaho's Role in the EIS

The State of Idaho is a cooperating agency in the preparation of this EIS. Under the National Environmental Policy Act (NEPA), this arrangement is appropriate because Idaho has jurisdiction and expertise regarding issues evaluated in this EIS.

Idaho has regulatory authority over many activities addressed in this EIS, including hazardous waste management, environmental cleanup, and air emission controls. In addition to this regulatory authority, the Settlement Agreement establishes requirements and schedules for managing HLW at the Idaho Nuclear Technology and Engineering Center (INTEC). These terms include:

- By June 30, 1998, convert all non-sodium bearing liquid HLW into a granular powder called calcine (completed).
- By December 31, 2012, convert all sodium-bearing liquid HLW to calcine.
- By December 31, 1999, begin negotiating a plan and schedule for calcined HLW treatment (begun with this EIS).
- Complete treatment of all calcined HLW so that it is ready to be moved out of Idaho for disposal by a target date of 2035.

The Settlement Agreement allows DOE to propose changes to these requirements, provided they are based on adequate environmental analyses under NEPA, and Idaho will agree to such changes if they are reasonable. Because of technology developments and changes needed in existing treatment facilities to properly manage sodium-bearing waste, Idaho agreed with DOE that an EIS could facilitate negotiations required by the Settlement Agreement. A cooperating agency arrangement was an appropriate way for both parties to evaluate HLW treatment options and their respective environmental impacts.

By serving as a cooperating agency, Idaho was able to identify and discuss concerns regarding information and issues presented in this draft EIS, and request changes to preliminary drafts. The State of Idaho was not, however, able to verify every aspect of this draft EIS.

In addition, Idaho and DOE did not have to agree on all issues before DOE published the draft EIS. The Memorandum of Agreement establishing the State of Idaho as a cooperating agency on this EIS recognizes that the two parties can "agree to disagree" on issues, and that the EIS will reflect both positions. Idaho has identified four key policy issues related to this EIS.

Key Policy Issues

1 Idaho finds certain options to be inconsistent with the intent of the Settlement Agreement.

Idaho recognizes that under NEPA, DOE may evaluate alternatives that are not consistent with existing legal obligations. However, Idaho wants to inform decision-makers and the public of options that are inconsistent with the Settlement Agreement.

One of the fundamental reasons Idaho agreed to the 1995 settlement was DOE's commitment to convert all liquid waste in the INTEC Tank Farm into solid form by 2012 and to treat this waste so that it could be removed from Idaho by a target date of 2035. Therefore, the following EIS options are inconsistent with the 1995 court settlement:

- options that leave liquid waste in the INTEC Tank Farm beyond the year 2012; and
- options that result in treated waste from the INTEC Tank Farm not being ready to be moved out of Idaho by 2035.

For example, the No Action Alternative, which leaves liquids in the INTEC Tank Farm and the Continued Current Operations Alternative, which leaves calcined waste at INTEC indefinitely, are inconsistent with the Settlement Agreement. Similarly, alternatives that propose to dispose of low-level waste fractions separated from HLW at

INTEC will not meet the Settlement Agreement's intent to have all HLW treated and removed from Idaho.

Notably, DOE and the State did not select a preferred alternative in the draft EIS. The State and DOE will discuss preferred alternatives after considering public input, and the Final EIS will announce the outcome of these discussions.

2 Idaho maintains that sodium-bearing waste in the INTEC Tank Farm is HLW.

Reprocessing at INTEC used a three-cycle solvent extraction process to recover highly enriched uranium from spent fuel. Each cycle created liquid waste, as did decontamination activities.

DOE's recently adopted Radioactive Waste Management Order (DOE O 435.1) identifies HLW as liquid produced "directly in reprocessing." Idaho interprets this HLW definition to include waste from the first reprocessing cycle ("non-sodium bearing waste") and the second and third cycles ("sodium-bearing waste"). This interpretation is consistent with language in the Settlement Agreement that identifies both sodium-bearing waste and non-sodium bearing waste as HLW. In addition, liquid from the second and third extraction cycles was routed to an evaporator before being discharged to the Tank Farm. As such, these liquids contain radioactive fission products in sufficient concentrations to warrant permanent isolation in a geologic repository.

DOE, however, maintains that only the liquid from the first reprocessing cycle is HLW. This difference of interpretation does not change the environmental impacts of this EIS's alternatives. However, it does affect the process DOE would follow if certain alternatives are selected, and could affect the eventual disposition of the material.

DOE has a process, called a "waste incidental to reprocessing (WIR) determination," to decide if it is more appropriate to classify and manage HLW as transuranic or low-level waste, provided the waste meets certain criteria. Idaho maintains that DOE should manage the sodium-bearing waste as HLW unless and until it completes a WIR determination.

As noted above, even if DOE determines some of the HLW should be classified as other waste types, all of it must be treated and prepared for shipment out of Idaho as the Settlement Agreement intended.

3 Idaho urges DOE to take steps to allow acceptance of certain hazardous constituents at the national geologic repository.

This EIS explains that current DOE policy will not allow the disposal of HLW containing certain hazardous waste constituents at the proposed geologic repository. Unless DOE changes its policy or seeks regulatory exemptions, it is unlikely there will be an appropriate place to receive all of INEEL's HLW.

4 Idaho urges DOE to calculate Metric Tons of Heavy Metal (MTHM) for DOE HLW in a way that more accurately reflects the actual concentrations of radionuclides and relative risk. This approach would allow for the proper disposal of DOE's HLW inventory in a more timely manner consistent with the intent of federal legislation.

Space in the proposed geologic repository is allocated by Metric Tons of Heavy Metal (MTHM). MTHM refers to the amount of energy-producing material in nuclear fuel, primarily uranium and plutonium. DOE has allocated 4,667 MTHM in the proposed repository for its HLW. Determining the

MTHM in spent nuclear fuel is straightforward, since the quantity was established when the fuel was fabricated. Because reprocessing removed plutonium and uranium from different types of nuclear fuel over three cycles, calculating MTHM for DOE's HLW is more complex.

DOE currently estimates MTHM in its HLW based on hypothetical comparisons between "typical" DOE waste and "typical" commercial materials. Using this method, DOE established a standard where one canister of DOE HLW is equivalent to 0.5 MTHM. Although easy to use, this conversion factor does not recognize that much of DOE's waste is significantly less radioactive and poses less risk than the "typical" DOE waste used in the comparison. Therefore, this method overestimates the MTHM in DOE HLW, exceeding the amount allocated in the repository.

DOE has evaluated other methods for calculating MTHM. One method compares the relative radioactivity in DOE HLW with that in a standard MTHM of a commercial spent fuel assembly. Because commercial spent fuel was irradiated for a much longer period of time, it exhibits significantly higher levels of radioactivity and contains much higher concentrations of long-lived radionuclides than DOE spent fuel used for reprocessing. Thus, the amount of radioactivity in DOE HLW is a very small fraction of what is present in an equivalent amount of commercial spent fuel. A second method compares relative radiotoxicity with similar results.

Idaho advocates using either of these approaches to better reflect the relative risk and actual concentrations of radionuclides in DOE HLW. Under these approaches, DOE HLW would be within the capacity established for the proposed repository.

Public Involvement Welcome

Idaho hopes its participation in preparing this EIS contributes to a better understanding of technical and policy-related HLW management issues. Public comment on this document will enhance this discussion.